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ABSTRACT

An automated library system usually consists of a number of functional modules, such as acquisitions, circulation, cataloging, serials, and an online public access catalog (OPAC). An "integrated" library system is an automated system in which all of the function modules share a common bibliographic database. There are several ways the integration of a system can be accomplished. The library can: (1) buy an integrated system from a single vendor; (2) purchase a variety of modules from different vendors and interconnect them; or (3) implement any number of purchased modules, then connect them to sources of information outside the library. Advantages of an integrated system include: duplication of effort in creating multiple copies of bibliographic records is eliminated; opportunities for errors are reduced when records are entered only once; and library staff and patrons can have access to all pertinent information at one location. Information is provided on the selection of an integrated system, implementation and management issues, and future trends in integrated library systems. A comparison is made between off-the-shelf and customized systems. (Contains seven references.) (MAS)

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by Cynthia L. Lopata

What is an integrated library system?

An automated library system usually consists of a number of functional modules, such as acquisitions, circulation, cataloging, serials, and an OPAC (Online Public Access Catalog). An *integrated* library system is an automated system, as described above, in which all of the functional modules share a common bibliographic database. The National Library of Medicine used the term "integrated" in referring to a system in which all automated library functions are processed against a single, master bibliographic file (Goldstein & Dick, 1980). Genaway (1984) expanded the definition and described the integrated online library system (IOLS) as "a library system that uses a common machine-readable database and has two or more subsystems operational and accessible online" (p.4).

In a system which is not integrated, there might be a bibliographic record in the catalog for a book and, if that book were to be checked out, there would be another bibliographic record for it in a circulation file. In an integrated system, there would be one bibliographic record for a book, probably created when the book was ordered, then expanded when it was cataloged. If that book were to be checked out, the patron record for the borrower would be attached to the bibliographic record, but there would not be a duplicate bibliographic record for the book in a circulation file. There are some systems which have duplicate bibliographic records but which are considered to be integrated because changes to bibliographic records are automatically propagated. For example, a change made to a bibliographic record in the acquisitions file would automatically be made to the duplicate bibliographic record in the catalog. In these quasi-integrated systems, movement between the modules and their duplicate files is facilitated by some type of linking mechanism.

There are several different ways the integration of a system can be accomplished. A library can:

- buy an integrated system, including a number of functional modules, from a single vendor;
- purchase a variety of modules from a variety of vendors and interconnect them; or
- implement any number of purchased modules, from either one or multiple vendors, and then connect them to sources of information outside the library.

What are the advantages of an integrated system?

An integrated system is superior in several ways to one which is not integrated.

- The duplication of effort to create and maintain multiple copies of bibliographic records is eliminated in an integrated system.
- Opportunities for errors are reduced when records are entered only once, and changes are automatically propagated throughout the system.
- Library staff and patrons can have access to all pertinent information at one location.

For example, in an integrated system, a patron can view a bibliographic record in the online catalog and also see that the book has been checked out and when it is due back to the library. Of course, privacy of borrowers can be protected by preventing patrons from viewing borrower information. Also, patrons can tell by looking at the online catalog, in an integrated system, that a book has been ordered, but not yet received. In a system which is not integrated, that information would be available to library staff only through the acquisitions module.

How does a library select an integrated system?

There are many vendors of integrated systems. One source for information on vendors and systems is "Automated System Marketplace" which is published annually in *Library Journal*. While it is possible, using such a tool, to identify market leaders among the vendors, it is not possible to say which of the available systems is best. Such a determination would have to be based on a thorough understanding of the library for which the system was intended and of that library's needs and resources. A system which might be ideal for a large academic library would not be suitable for a small school library. Still, the number of systems which a vendor has installed is one measure of success and quality. Other measures include level of customer support provided and customer satisfaction.

There are also a number of system performance issues which must be addressed during the selection process. Does the system have the capacity to handle the number of transactions, e.g. the number of books checked out daily, in the library without slowing to an unacceptable level of performance? How many bibliographic records and patron records can the system hold?

Also, libraries must look to the future when purchasing a system. How much growth, in terms of patrons and materials, can the system accommodate? Will the library be able to migrate from this system to another system without extensive redesign of the database?

Off-the-Shelf vs. Customization

In the early days of automated library systems, some large libraries designed and implemented their own systems. Some of these homegrown systems were later developed into commercial products. For example, the NOTIS system evolved from automation systems developed at Northwestern University. An alternative to this design-your-own approach has been to buy an off-the-shelf system, which is essentially a generic or one-size-fits-all application. Many library functions, such as cataloging and acquisitions, are the same across libraries. However, one size does not always fit all. It can be difficult to accommodate the particular procedures for a specific library in this type of a generic system.

A third approach has emerged which lies between the homegrown system and the off-the-shelf system: the generic, customizable system. This is a system which incorporates generic functions but has multiple parameters which can be set by each library, thus customizing the system for a particular setting. For example, a system of this type might include a standard function for checking out books. Borrowing periods for various categories of users will vary from library to library, and a system of this type would allow an individual library to adjust the settings for due dates based on that library's borrowing policies. The extent to which the system may be customized is great, but a library may also choose to use default settings if appropriate.

Implementation and Management Issues

Just as important as, or perhaps more important than, selecting the right system is the process of implementing that system in the library and dealing with the associated management issues. As described above, one of the main features and advantages of an integrated system is the sharing of bibliographic records among the various system modules. This single feature can have far reaching implications for the management of the library. Some organizational changes which have accompanied the implementation of integrated systems include:

- new patterns of communication among library staff, especially between technical services staff and public services staff;
- increases in responsibility and decision making among lower level staff; and
- increased requirements for all staff to acquire technical knowledge and skills.

Many libraries have redesigned their operations to take maximum advantage of the new technology.

Future Trends in Integrated Library Systems

The definition of an integrated system is beginning to change from a system which shares bibliographic records among local functions and modules to a system which exchanges information with many other systems outside of the library. Technological developments, such as client/server architectures and standardized protocols for passing information from one system to another, are facilitating this integration of outside information sources into local systems. For example, an online ordering system might allow a librarian to search a publisher's bibliographic database, select records of books to be purchased, and download those records from the publisher's database into the library catalog. Also, some libraries with expanded integrated systems offer patrons access, through their local OPACs, to other bibliographic and non-bibliographic databases both inside and outside the library and to OPACs of other libraries.

References

Cibbarelli, P. (Ed.). (1993). *Directory of library automation software, systems, and services.* Medford, NJ: Learned Information.

Cibbarelli, P., & Nixon, C. (1994). *IOLS '94 Proceedings of the ninth national conference on integrated online library systems.* Medford, NJ: Learned Information.

Genaway, D. C. (1984). *Integrated online library systems: Principles, planning, and implementation.* White Plains, NY: G.K. Hall.

Goldstein, C., & Dick, R. (1980). The Lister Hill Center integrated library system. *National Library of Medicine News, 35*(1), 1-2.

Griffiths, J. (1994). Automated system marketplace. *Library Journal, 119*(6), 50-59. (EJ 481 862)

Head, J. W., & McCabe, G. B. (Eds.). (1993). *Insider's guide to library automation: Essays of practical experience*. Westport, CT: Greenwood Press.

Johnson, P. (1991). *Automation and organizational change in libraries.* New York: Macmillan.

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